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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/092,293   | 03/07/2002  | Kazuhiko Mori        | 505-967P            | 2670             |
| 2292   | 7590        | 06/16/2005           | EXAMINER            |                  |
| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | BECK, ALEXANDER S   |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2675                |                  |

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/092,293

Applicant(s)

MORI ET AL.

Examiner

Alexander S. Beck

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6,8 and 10-18 is/are rejected.  
7) ☒ Claim(s) 7 and 9 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 10 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/7/02  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) filed on 3/7/2002 has been acknowledged and considered by the examiner. An initialed copy of the PTO-1449 is included in this correspondence.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 10-18** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding **Claim 10**, Applicant recites the limitation "*a control circuit, mounted on the circuit board, for controlling liquid crystal drive voltage based on temperature detected by the temperature sensor,*" (pg 15, ln 16-17) and "*the control circuit further comprises an adder circuit for adding a compensation temperature to the temperature detected by the temperature sensor,*

*and outputting the sum of these temperatures to the liquid crystal driver when the temperature detected by the temperature sensor exceeds a predetermined reference temperature*" (pg 16, ln 6-9). The first limitation implies that the liquid crystal display is controlled based on a measured temperature value, whereas the second limitation implies that the liquid crystal display is controlled based on a modified temperature value when the temperature detected by the sensor exceeds a predetermined reference temperature. The first and second limitations contradict one another, and were not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Examiner notes that the second limitation is allowable subject matter, and Claim 1 would be allowable if re-written to overcome the 112, first paragraph rejections.

Regarding **Claim 10**, Applicant recites the limitation "*outputting the sum of these temperatures to the liquid crystal driver*" (pg 16, ln 7-8). The limitation of the combined temperatures being output to the liquid crystal driver was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Rather, the specification indicates the combined temperatures being output to the drive voltage decision portion (pg 10, par [0039]).

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1 and 4-6** are rejected under 35 U.S.C. 102(b) as being anticipated by Kumagai et al. (US 4,556,877, herein after referred to as "Kumagai").

Regarding **Claim 1**, Kumagai discloses a liquid crystal display for a vehicle in **FIG. 4** comprising:

a liquid crystal display panel 9;

a circuit board 19 for mounting circuit elements 20 including a liquid crystal driver 20;

a temperature sensor 22 mounted on the circuit board; and

a control circuit 20, mounted on the circuit board, for controlling liquid crystal drive voltage based on temperature detected by the temperature sensor, the liquid crystal display panel and the circuit board being placed one upon the other in a meter housing 23 having a substantially closed space therein with a predetermined space there between, wherein

the display further comprises a heat collection panel 2 exposed to surround the screen of the liquid crystal display panel. (Kumagai: col 2, ln 30 – col 3, ln 13)

Regarding **Claim 4**, Kumagai discloses the liquid crystal display for a vehicle according wherein the temperature sensor is a thermistor. (Kumagai: col 2, ln 30 – col 3, ln 13)

Regarding **Claim 5**, Kumagai discloses the liquid crystal display for a vehicle, wherein the liquid crystal display is held in place by a liquid crystal holder 21, the liquid crystal holder being separated from the circuit board by the predetermined space, and held upright on the circuit board by leg portions extending downward from of the liquid crystal display holder to the circuit board. (Kumagai: col 2, ln 30 – col 3, ln 13)

Regarding **Claim 6**, Kumagai discloses the liquid crystal display for a vehicle wherein the liquid crystal display panel and the circuit board are parallel to one another. (Kumagai: col 2, ln 30 – col 3, ln 13)

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumagai et al. (US 4,556,877) in view of Ino et al. (Japanese Publication No. 04-001034, herein after referred to as "Ino").

Regarding **Claim 2**, note the above discussion of Kumagai pertaining to the limitations of Claim 1. Kumagai discloses wherein the heat collection panel 2 is mounted to the liquid crystal display panel 9 through a surface panel member 5 formed of a transparent resin plate

(Kumagai: col 2, ln 30 – col 3, ln 13). Kumagai does not disclose expressly wherein the transparent resin is an adiabatic material. Ino discloses a transparent heat insulating (i.e., adiabatic) resin material (Ino: see Abstract). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the liquid crystal display of Kumagai, such that the transparent resin plate is of a heat insulating material, as taught by Ino. The modified embodiment resulting in the heat collection panel mounted to the liquid crystal display panel through an adiabatic (i.e., heat insulating) member. The suggestion/motivation for doing so would have been for insulation and the elimination of heat exchange.

9. **Claims 3 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumagai et al. (US 4,556,877) in view of Santis (US 4,464,933, herein after referred to as "Santis").

Regarding **Claim 3**, note the above discussion of Kumagai pertaining to the limitations of Claim 1. Kumagai does not disclose expressly the liquid crystal display for a vehicle wherein the circuit board is inclined when the liquid crystal display for vehicle is properly mounted to a vehicle and the temperature sensor is installed at a high position above the inclined circuit board. Santis discloses an instrument console panel **78** in **FIG. 1** that is inclined when properly mounted to a vehicle (Santis: col 3, ln 52-63). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the liquid crystal display of Kumagai, such that it is inclined when properly mounted to a vehicle, as taught by Santis. The suggestion/motivation for doing so would have been for providing a simplified view of the display in the event that the steering wheel position is inclined (Santis: col 3, ln 52-63). As can be seen

from FIG. 4 of Kumagai, when inclining the circuit board 19, the temperature sensor 22 is installed at a high position above the inclined circuit board.

Regarding Claim 8, note the above discussion of Kumagai and Ino pertaining to the limitations of Claims 1 and 3. Kumagai discloses the liquid crystal display for a vehicle in FIG. 4 wherein the temperature sensor 22 is installed at a high position in the predetermined space between the meter housing 23 and the circuit board 19. (Kumagai: col 2, ln 30 – col 3, ln 13)

***Allowable Subject Matter***

10. Claims 7 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding Claim 7, References Kumagai and Ino are made of record as teaching an instrument panel for a vehicle. However, none of the cited prior art teaches or suggests wherein a control circuit further comprises:

a compensation temperature storage portion for storing a compensation temperature for compensating for a difference between the detection temperature of the temperature sensor and the temperature of the liquid crystal display panel; and

a drive voltage decision portion that represents the temperature of the liquid crystal display panel by the detection temperature until the detection temperature exceeds a predetermined reference temperature, and represents the temperature of the liquid crystal display panel by the total of the detection temperature and the compensation temperature when the detection temperature exceeds the reference temperature, as claimed.



**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamamoto (US 5,515,074 A)

Ikeda (US 5,608,422 A)

Koshobu et al. (US 5,929,833 A)

Oono et al. (US 6,211,852 B1)

Mizuno (US 6,313,821 B1)

Burton (US 6,496,177 B1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Alexander S Beck*

ASB  
6/8/2005

*Sumati Lefkowitz*  
**SUMATI LEFKOWITZ**  
SUPERVISORY PATENT EXAMINER